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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231 on January 18, 2002.  
By: Debbie Ellis  
Printed: Debbie Ellis

Docket No.: PA-0020 US

#9/CFR

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: Sornasse et al.

Title: GENES REGULATED BY HUMAN CYTOKINES

Serial No.: 09/435,247 Filing Date: November 05, 1999

Examiner: Sheinberg, M Group Art Unit: 1631

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Assistant Commissioner for Patents  
Office of Initial Patent Examination  
Customer Service Center  
Washington, D.C. 20231

**REQUEST FOR A CORRECTED FILING RECEIPT**

Sir:

Attached is a copy of the Official Filing Receipt received from the United States Patent and Trademark Office in the above application for which issuance of a corrected filing receipt is respectfully requested. Please make the correction as follows:

1. Under the section "Title," please replace "Genes Regulated Human Cytokines" with -Genes Regulated By Human Cytokines-

Applicants hereby request that the above correction be entered based on the following enclosed documents:

1. Copy of application return receipt postcard;
2. Copy of Application Transmittal Sheet (1 pg.); and
3. Copy of first page of Application Specification.

Applicants believe that no fee is due with this paper. However, if the Commissioner determines that a fee is necessary, the Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. **09-0108**.

Respectfully submitted,

INCYTE GENOMICS, INC.

Date:

January 18, 2002

for

Daniel S. Shute Reg. No. 43,168

Lynn E. Murry, Ph.D.

Reg. No. 42,918

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JUN 16 2000

## FILING RECEIPT



\*OC00000005130027\*

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Patent and Trademark OfficeAddress: ASSISTANT SECRETARY AND  
COMMISSIONER OF PATENT AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	DRAWINGS	TOT CLAIMS	IND CLAIMS
09/435,247	11/05/1999	1643	890	PA-0020 US	-	20	2

Incite Pharmaceuticals Inc  
3174 Porter Drive  
Palo Alto, CA 94304

Date Mailed: 05/22/2000

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the PTO processes the reply to the Notice, the PTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

## Applicant(s)

Thierry Sornasse, Mountain View, CA ;  
Benjamin Graeme Cocks, Sunnyvale, CA ;  
Bharati Sanjawala, Los Altos, CA ;

## Continuing Data as Claimed by Applicant

## Foreign Applications

If Required, Foreign Filing License Granted 04/28/2000

## Title

Genes regulated human cytokines  
Genes regulated by human cytokines

## Preliminary Class

435

Data entry by : HOPKINS, AUDREY

Team : OIPE

Date: 05/22/2000



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Express Mail No.: EL 315 816 867 US      Mailed: November 5, 1999  
Docket No.: PA-0020 US

ASSISTANT COMMISSIONER FOR PATENTS  
BOX PATENT APPLICATION  
WASHINGTON, D.C. 20231

Inventors: Thierry Sornasse, Benjamin Graeme Cocks, Bharati Sanjawala  
Title: GENES REGULATED BY HUMAN CYTOKINES

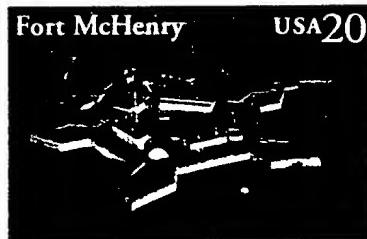
Enclosed:

- Return Receipt Postcard
- Transmittal for Patent Application (in duplicate)
- Submission Letter under 37 CFR 1.821 and 1.825
- One Computer Readable Diskette
- 34 pages of Specification (1-34)
- 2 pages of Claims (35-36)
- 1 page of Abstract (37)
- 14 pages of Tables (Table 1 (4); Table 2 (1); Table 3 (1)  
Table 4 (8))
- 200 pages of Sequence Listing
- 4 pages - Unexecuted Declaration/Power of Attorney
- Other: \_\_\_\_\_

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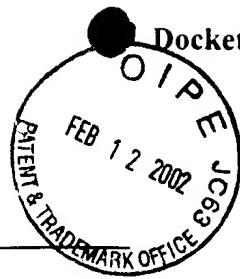


INCYTE PHARMACEUTICALS, INC.  
Patent Legal Department  
3174 Porter Drive  
Palo Alto, CA 94304

"Express Mail" mailing label number EL 315 816 867 U.S. I hereby certify that this document and referenced attachments are being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR § 1.10, addressed to: Assistant Commissioner for Patents, Box Patent Application, Washington, D.C. 20231 on November 5, 1999

By: Nancy Ramos

Printed: Nancy Ramos



COPY OF PATENTS  
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Assistant Commissioner for Patents  
**Box Patent Application**  
Washington, D.C. 20231

Transmitted herewith for filing is the patent application of:

Inventors: Thierry Sornasse, Benjamin Graeme Cocks, and Bharati Sanjawala

Title: **GENES REGULATED BY HUMAN CYTOKINES**

Enclosed are:

- Return postcard;
- 34 Pages of Specification (1-34);
- 2 Pages of Claims (35-36);
- 1 Page of Abstract (37);
- 14 Pages of Tables (Table 1 (4 pages); Table 2 (1 page); Table 3 (1 page); Table 4 (8 pages);
- 200 Pages of Sequence Listing (Sequence Nos. 1-516);
- 4 Pages - **Unexecuted** Declaration and Power of Attorney; and
- 1 Page of Sequence Listing Statement and one (1) Computer-Readable Diskette.

**Fee Calculation** - The fee has been calculated as follows:

**CLAIMS AS FILED** (fees computed under § 1.16)

Claims	Number Filed	Minus	Number Extra	Other Than Small Entity Rate	Basic Fee	
					\$760.00	
Total Claims	20	-20	0	x \$18	0	\$0
Indep. Claims	2	-3	0	x \$78	0	\$0
<u>Multiple Dependent Claim(s), if any</u>				+ \$260		\$

**TOTAL FILING FEE      \$ 760.00**

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The Commissioner is hereby authorized to charge Incyte Pharmaceuticals, Inc. Deposit Account No. 09-0108 in the amount of \$760.00. The Commissioner is hereby authorized to charge any additional fees required under 37 C.F.R. § 1.16 and 1.17, or credit any overpayment to Incyte Pharmaceuticals, Inc. Deposit Account No. 09-0108. A duplicate of this sheet is enclosed.

Respectfully submitted,

INCYTE PHARMACEUTICALS, INC.

Date: 5 November 1999

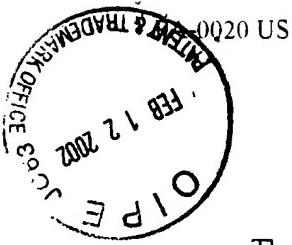
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**RECEIVED**  
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 GENES REGULATED BY HUMAN CYTOKINES  
 FIELD OF THE INVENTION

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The present invention relates to a plurality of polynucleotides which may be used in detecting genes modulated in response to human cytokines. In particular, the present invention provides for the use of these polynucleotides in the diagnosis of conditions, disorders, and diseases associated with the immune system and immune response.

### BACKGROUND OF THE INVENTION

Mammalian peripheral blood comprises cells of the erythroid, myeloid, and lymphoid lineages. (See, e.g., Rapaport (1987) Introduction to Hematology, Lipincott, Philadelphia PA; Jandi (1987) Blood: Textbook of Immunology, Little, Brown and Co., Boston MA; and Paul (1998) Fundamental Immunology (4<sup>th</sup> ed.), Raven Press, New York NY). Each of these lineages are derived from a pluripotent stem cell which, upon exposure to various molecules and other types of cells, differentiate into effector cells which migrate into the blood and other organs. These cells include red blood cells and platelets (erythroid), macrophages and granulocytes (myeloid), and T and B lymphocytes (lymphoid). The latter two groups of cells mediate immune responses to pathogens such as bacteria, parasites, and viruses.

Functional interaction of the cell types involved in immune responses involves transfer of signals via soluble messenger molecules known as cytokines. Both hematopoietic cells and non-hematopoietic cells produce cytokines which stimulate the activation, differentiation and proliferation of T cells, B cells, macrophages, and granulocytes during an active immune response. Cytokines bind to specific receptors expressed on cellular membranes and transduce a signal through the cell. Depending on the type of cytokine and the cell to which it binds, this signal initiates activation, differentiation, growth, and/or apoptosis (Aggarwal and Guterman (1991) Human Cytokines: Handbook for Basic and Clinical Research, Blackwell, Oxford, UK).

T cells, which respond to and produce a variety of cytokines, are divided into two major groups, CD4<sup>+</sup> T helper (Th) cells, and CD8<sup>+</sup> cytotoxic T lymphocytes (CTL). Immune responses are primarily regulated by CD4<sup>+</sup> Th cells which fall into two subclasses based on the kinds of cytokines they secrete. Th1 cells secrete primarily IL-2 and IFN- $\gamma$ , regulate the responses of CTLs, B cells, and macrophages, and orchestrate the removal of intracellular pathogens. In contrast, Th2 cells secrete primarily IL-4 and IL-10 and promote the development of certain antibody responses such as IgG1, IgA, and IgE, an excess of the latter triggering allergic responses. In addition, Th2 cells remove extracellular pathogens, which include various



## UNITED STATES PATENT AND TRADEMARK OFFICE

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 WASHINGTON, D.C. 20231  
[www.uspto.gov](http://www.uspto.gov)



Bib Data Sheet

CONFIRMATION NO. 4960

SERIAL NUMBER 09/435,247	FILING DATE 11/05/1999 RULE	CLASS 536	GROUP ART UNIT 1631	ATTORNEY DOCKET NO. PA-0020 US
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**APPLICANTS**

Thierry Sornasse, Mountain View, CA;  
 Benjamin Graeme Cocks, Sunnyvale, CA;  
 Bharati Sanjawala, Los Altos, CA;

## \*\* CONTINUING DATA \*\*\*\*\*

## \*\* FOREIGN APPLICATIONS \*\*\*\*\*

## IF REQUIRED, FOREIGN FILING LICENSE GRANTED

\*\* 04/28/2000

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Foreign Priority claimed	<input type="checkbox"/> yes <input type="checkbox"/> no	STATE OR COUNTRY CA	SHEETS DRAWING	TOTAL CLAIMS 20	INDEPENDENT CLAIMS 2
35 USC 119 (a-d) conditions met	<input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance				
Verified and Acknowledged	Examiner's Signature _____ Initials _____				

**ADDRESS**

Incyte Pharmaceuticals Inc  
 3174 Porter Drive  
 Palo Alto, CA 94304

**TITLE**

Genes regulated by human cytokines

FILING FEE RECEIVED 890	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees ( Filing ) <input type="checkbox"/> 1.17 Fees ( Processing Ext. of time ) <input type="checkbox"/> 1.18 Fees ( Issue ) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit
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